



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,132	07/30/2001	William Joseph Piazza	RPS920000117US1	1394

7590 08/26/2004

Bracewell & Patterson L.L.P.  
Intellectual Property Law  
P.O. Box 969  
Austin, TX 78767-0969

EXAMINER

NAHAR, QAMRUN

ART UNIT	PAPER NUMBER
	2124

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/918,132	PIAZZA, WILLIAM JOSEPH
	Examiner Qamrun Nahar	Art Unit 2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 30 July 2001.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-52 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-52 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 22 October 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 11/15/01.

4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

1. Claims 1-52 have been examined.

### ***Drawings***

2. The drawings filed on 10/22/01 are objected to because Figure 4, step 450 decision flow is **incorrect**. That is, if the decision for step 450 is YES, then the process 400 flows to REPORT ERROR, step 455. If the decision for step 450 is NO, then the process 400 flows to PERFORM FLASH UPDATE OPERATION, step 460. See page 19, lines 15-28 of the specification.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be **labeled "Replacement Sheet" in the page header** (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

3. The disclosure is objected to because of the following informalities: “ths” on line 6 of page 4 should be “the”.

Appropriate correction is required.

***Claim Objections***

4. Claims 16 and 31 are objected to because of the following informalities: “a electrically” on line 2 of the claims should be “an electrically”. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-11 and 20-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 20 recites the limitation “the relationship” in lines 11 and 13 of the claims, respectively. There is insufficient antecedent basis for this limitation in the claim. Therefore, this limitation is interpreted as “a relationship”.

Claims 2-11 and 21-27 are rejected for dependency upon rejected base claims 1 and 20, respectively, above.

***Claim Rejections - 35 USC § 101***

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8. Claims 12-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As per claim 12, merely claimed as a “data structure”, constitute non-functional descriptive material *per se*. The claims do not define any structural and functional relationship between the data structure and other claimed aspects of the invention which permit the data structure’s functionality to be realized. The claimed data structure is not capable of causing functional change in a computer. *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760. Note that while Applicant’s claims recite a “data structure”, the recited limitations do not impart functionality when employed as a computer component and do not specify a physical or logical relationship among data elements, designed to support specific data manipulation functions. Accordingly, the claimed matter cannot be considered functional descriptive material. When nonfunctional descriptive material is recorded on some computer-readable medium, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make it statutory. Such a result would exalt form over substance. *In re Sarkar*, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978).

As per claims 13-19, these claims are rejected for dependency on the above rejected non-statutory claim 12 above.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-14, 17-29 and 32-52 are rejected under 35 U.S.C. 102(b) as being anticipated by Kathail (U.S. 5,802,365).

**Per Claim 1 (as best understood):**

The Kathail patent discloses:

**- a method for identifying compatibility between two firmware images** (“A method and mechanism are described for automatically correlating a device to its appropriate driver within a computer system utilizing candidate matching.” in column 2, lines 37-39)

**- analyzing a control block of each of said firmware images, wherein each of said control blocks includes a firmware family code and a compatibility table of a firmware image associated with said control block** (“Drivers for devices can be located in RAM, ROM, or in another storage media (such as disk drive). Drivers can include a data field indicating a driver name indicative of a corresponding device with which they operate and a data field indicating a service category of the family with which they belong.” in column 2, lines 44-50)

**- determining if said firmware family codes of said firmware images are the same; and evaluating said compatibility tables to determine if said firmware images are compatible in response to said determination that said firmware family codes of said firmware images are not the same, wherein each of said compatibility tables describes the relationship between an associated firmware image and other family codes** (“In one embodiment, for a particular device, the system constructs a candidate list of drivers by comparing the device name and the compatible names from the device tree against all the driver names of data fields of all known drivers. In addition, the corresponding family code, which provides an interface to the driver code, is determined for each driver candidate by comparing the service category contained in the category information of the driver to a set of family names indicative of available families. The candidate list is sorted so that matches by device name and proper version number are higher priority.” in column 2, lines 50-60).

**Per Claim 2 (as best understood):**

The Kathail patent discloses:

**- further comprising reporting said firmware images are not compatible if said family codes of said firmware images are not the same and said evaluation of said compatibility tables concludes that said firmware images are not compatible** (column 2, lines 60-65).

**Per Claim 3 (as best understood):**

The Kathail patent discloses:

- **wherein said compatibility table includes at least one table entry, wherein said table entry is associated with a different firmware image** (column 7, lines 22-34).

**Per Claim 4 (as best understood):**

The Kathail patent discloses:

- **wherein said table entry includes a family code and a stepping level of said different firmware image** (column 18, lines 27-34).

**Per Claim 5 (as best understood):**

The Kathail patent discloses:

- **wherein said table entry further includes a relationship code that identifies whether a firmware image associated with said compatibility table can be utilized to replace a firmware belonging to a firmware family identified in said compatibility table** (column 2, lines 50-60).

**Per Claim 6 (as best understood):**

The Kathail patent discloses:

- wherein said relationship code includes a family relationship code and a stepping level relationship code (column 18, lines 27-34).

**Per Claim 7 (as best understood):**

The Kathail patent discloses:

- wherein said family relationship code identifies which firmware family code is compatible with said firmware image associated with said compatibility table (column 18, lines 27-34).

**Per Claim 8 (as best understood):**

The Kathail patent discloses:

- wherein said stepping level relationship code identifies which stepping levels can replace or be replaced with said firmware image associated with said compatibility table (column 18, lines 27-34).

**Per Claim 9 (as best understood):**

The Kathail patent discloses:

- wherein each of said control block further includes a stepping level of an associated firmware image (column 18, lines 27-34).

**Per Claim 10 (as best understood):**

The Kathail patent discloses:

- **wherein each of said control blocks is resident in an associated firmware image** (column 7, lines 66-67 to column 8, lines 1-10).

**Per Claim 11 (as best understood):**

The Kathail patent discloses:

- **wherein each of said control blocks is not resident in an associated firmware image and accessed utilizing a software application interface (API)** (column 18, lines 21-26).

**Per Claim 12:**

The Kathail patent discloses:

- **a computer-readable medium having stored thereon a data structure for a firmware family control block of a firmware image, said data structure comprising: a first field containing data representing a firmware family code of said firmware image; and a second field containing data representing a compatibility table entry** (column 2, lines 37-60 and column 18, lines 16-34).

**Per Claim 13:**

The Kathail patent discloses:

- **wherein said data structure further includes a third field containing data representing a firmware stepping level of said firmware image** (column 18, lines 29-34).

**Per Claim 14:**

The Kathail patent discloses:

- **wherein said computer-readable medium is a non-volatile memory device** (column 2, lines 44-50).

**Per Claims 17-19:**

These are computer-readable medium versions of the claimed method discussed above (claims 5 and 7-8, respectively), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Kathail.

**Per Claims 20-27 (as best understood):**

These are computer-readable medium versions of the claimed method discussed above (claims 1-5 and 7-9, respectively), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Kathail.

**Per Claims 28-29 & 32-34:**

These are data processing system versions of the claimed computer-readable medium discussed above (claims 12-13 and 17-19, respectively), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Kathail.

**Per Claim 35:**

The Kathail patent discloses:

- **a method for upgrading an installed firmware with a candidate firmware** (“A method and mechanism are described for automatically correlating a device to its appropriate driver within a computer system utilizing candidate matching.” in column 2, lines 37-39)
  
- **determining if each of said installed and candidate firmwares has a control block, wherein each of said control blocks includes a firmware family code, firmware stepping level and compatibility table of an associated firmware** (“Drivers for devices can be located in RAM, ROM, or in another storage media (such as disk drive). Drivers can include a data field indicating a driver name indicative of a corresponding device with which they operate and a data field indicating a service category of the family with which they belong.” in column 2, lines 44-50)

**- acquiring firmware family codes and firmware stepping levels of said installed and candidate firmwares in response to said determination that both of said installed and candidate firmwares have a control block; comparing said family codes and said stepping levels of said installed and candidate firmwares; and determining if said installed and candidate firmwares are compatible utilizing said compatibility tables in response to said family codes and said stepping levels of said installed and candidate firmwares not matching** (“In one embodiment, for a particular device, the system constructs a candidate list of drivers by comparing the device name and the compatible names from the device tree against all the driver names of data fields of all known drivers. In addition, the corresponding family code, which provides an interface to the driver code, is determined for each driver candidate by comparing the service category contained in the category information of the driver to a set of family names indicative of available families. The candidate list is sorted so that matches by device name and proper version number are higher priority.” in column 2, lines 50-60).

**Per Claim 36:**

The Kathail patent discloses:

**- further comprising utilizing legacy methods for determining if said installed and candidate firmwares are compatible in response to said determination that said installed firmware does not have a control block** (column 21, lines 15-20).

**Per Claim 37:**

The Kathail patent discloses:

**- further comprising overwriting said installed firmware with said candidate firmware in response to said determination that said installed and candidate firmwares are compatible** (column 2, lines 60-65).

**Per Claim 38:**

The Kathail patent discloses:

**- further comprising reporting said installed firmware with said candidate firmware are incompatible in response to said determination that said installed and candidate firmwares are not compatible** (column 24, lines 39-42).

**Per Claims 39-43:**

These are another versions of the claimed method discussed above (claims 3-5 and 7-8, respectively), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Kathail.

**Per Claims 44-52:**

These are computer-readable medium versions of the claimed method discussed above (claims 35-43, respectively), wherein all claim limitations also have been addressed and/or

covered in cited areas as set forth above. Thus, accordingly, these claims are also anticipated by Kathail.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 15-16 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kathail (U.S. 5,802,365) in view of Applicant Admitted Prior Art (hereinafter “AAPA”).

**Per Claim 15:**

The rejection of claim 14 is incorporated, and further, Kathail does not explicitly teach wherein said non-volatile memory device is a programmable read only memory (PROM).

AAPA teaches wherein said non-volatile memory device is a programmable read only memory (PROM) (see instant specification, pg. 2, lines 8-13).

It would have been obvious to one having ordinary skill in the computer art at the time of the invention was made to modify the computer-readable medium disclosed by Kathail to include wherein said non-volatile memory device is a programmable read only memory (PROM) using the teaching of AAPA. The modification would be obvious because one of ordinary skill in the art would be motivated to distribute updates using PROM.

**Per Claim 16:**

The rejection of claim 14 is incorporated, and further, Kathail does not explicitly teach wherein said non-volatile memory device is an electrically erasable programmable read only memory (EEPROM). AAPA teaches wherein said non-volatile memory device is an electrically erasable programmable read only memory (EEPROM) (see instant specification, pg. 2, lines 13-17).

It would have been obvious to one having ordinary skill in the computer art at the time of the invention was made to modify the computer-readable medium disclosed by Kathail to include wherein said non-volatile memory device is an electrically erasable programmable read only memory (EEPROM) using the teaching of AAPA. The modification would be obvious because one of ordinary skill in the art would be motivated to reuse the same hardware for updates.

**Per Claims 30-31:**

These are data processing system versions of the claimed computer-readable medium discussed above (claims 15-16, respectively), wherein all claim limitations also have been addressed and/or covered in cited areas as set forth above. Thus, accordingly, these claims are also obvious.

***Conclusion***

13. Any inquiry concerning this communication from the examiner should be directed to Qamrun Nahar whose telephone number is (703) 305-7699. The examiner can normally be

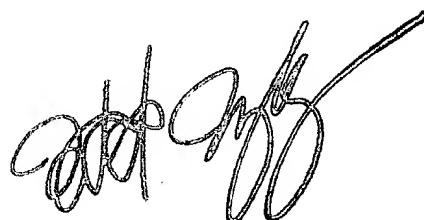
reached on Mondays through Thursdays from 9:00 AM to 6:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki, can be reached on (703) 305-9662. The fax phone number for the organization where this application or processing is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

QN  
August 18, 2004



**TODD INGSBERG  
PRIMARY EXAMINER**